BEACON
GEOTECHNICAL, INC

January 20, 2012 F-100578

County of San Luis Obispo
General Services – Architectural Services
1087 Santa Rosa Street
San Luis Obispo, CA 93408

Project: 5855 Capistrano Avenue
Atascadero, California

Subject: 2010 C.B.C. Report Update/Transfer of Engineer of Record

Reference:
1) Geotechnical Engineering Report by Buena Geotechnical Services LLC Dated February 11, 2004 (B-043662)
2) Grading Report by Buena Geotechnical Services LLC dated July 31, 2006
3) Compaction Test Report – Wall Backfill by Buena Geotechnical Services LLC Dated September 22, 2006

This letter has been provided to update the above referenced geotechnical engineering report to the new 2010 C.B.C. code, which was implemented by the State of California for construction projects submitted to building departments after December 31, 2010. Grading inspections shall be performed in accordance with the 2010 CBC Tables 1704.7

In addition to the site class information provided below, all references in the original geotechnical engineering report to Chapter 33 of the Uniform Building Code should now reference Chapter 18 of the 2010 California Building Code.

The following estimated ground motion parameters have been established using the methods outlined in the 2010 California Building Code with reference to the acceleration contour maps provided by the U.S. Geological Survey (USGS) and the National Seismic Hazard Mapping Project (NSHMP). These ground motion parameters represent the Maximum Considered Earthquake (MCE) spectral response of seismic events experiencing 5 percent damped acceleration and having a 2 percent probability of exceedance within a 50 year period.

Approximate project map coordinates: **35° 29′ 20.88″ N and 120° 39′ 50.01″ W**

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2010 California Building Code Seismic Parameters	
Parameter	**Value**
Seismic Design Category	D
Site Class	D
Short Period Spectral Acceleration, S_s	1.129
1-second period spectral acceleration, S_1	0.495
Short period site coefficient, F_a	1.048
1-second period site coefficient, F_v	1.505
Adjusted short period spectral acceleration, S_{ms}	1.183
Adjusted 1-second period spectral acceleration, S_{m1}	0.745
Short period design spectral acceleration, S_{DS}	0.789
1-second period design spectral acceleration, S_{D1}	0.497

Basement and structural retaining walls may be designed based on a peak ground acceleration (PGA) of 0.32 in accordance with the 2010 CBC Section 1803.5.12. For Seismic Design Category D, E or F, the peak ground acceleration value should be incorporated into the design of basement and structural retaining walls and has been taken as SDS/2.5.

Seismic Hazards

- This portion of Central California is subject to significant seismic hazards from moderate to large earthquake events. Ground shaking resulting from earthquakes is the primary geologic hazard at the project site. Ground displacement resulting from faulting is a potential hazard at or near faults.
- The site does not lie within an Earthquake Fault Zone identified on a State of California Earthquake Fault Zone Map.
- Faults closest to the site, which would most affect the proposed project:

Nearby Active Faults	Approximate Distance (km)	Magnitude M_w
Rinconada Fault	**0.8**	**7.4**
West Huasna- Oceanic Fault	**9.3**	**7.0**
Hosgri Fault	**33.6**	**7.3**
San Andreas Fault Zone	**43.9**	**8.0**

On January 20, 2012 the project site was visited by a representative of this firm to observe the site conditions. Upon observation of the site conditions the referenced report was found to be valid as of this date.

The original geotechnical engineering report has been reviewed and approved by a representative of this office and from this point forward Beacon Geotechnical, Inc. shall provide the services as the Geotechnical Engineering firm of record for the course of this project. All in-construction field observations should be observed and approved by a representative of this firm.

It is recommended that Beacon Geotechnical, Inc. be retained to provide intermittent geotechnical engineering services during site development, grading and foundation construction phases of the work to observe compliance with the design concepts, specifications and recommendations of this report, and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

New Foundation Recommendations

Due to the prior grading and preparation of the pad for the existing shell building, any new foundation footings may be excavated a minimum of twenty one (21) inches below the existing grade and be approved by a representative of this firm prior to placement of forms and reinforcement. Additionally, due to the original depth of overexcavation and recompaction, new foundation elements should be limited to shallow footings with depths no greater than twenty-four (24) inches below lowest adjacent grade.

All recommendations for presaturation of footing and slab soils in the original Geotechnical Investigation should be followed to minimize the potential effects of expansive soils. The building should be properly ventilated during presaturation to reduce unwanted air moisture.

We have appreciated this opportunity to be of service to you on this project. Please call if you have any questions, or if we can be of further service.

Respectfully submitted,
Beacon Geotechnical, Inc.

Josh Cwikla, P.G.
Project Manager

Nicholas A. McClure
Civil Engineer